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ABSTRACT

The fundamental differences in classroom social structure and the effect of teaching behavior on the unique patterns of classroom social structures were studied. Subjects included fifth-grade classrooms with female teachers in a small city school system. Eighteen classrooms with a total of 576 children fit these criteria. Instrumentation included sociometric variables rendered visible through the sociogram and teacher behavior variables measured by Flanders Interaction Analysis. The research confirmed that, in this sample, statistically significant relationships do exist between categories of verbal behaviors of teachers and patterns of peer relationships among their pupils. A broad spectrum relationship between direct and indirect teaching styles and peer relationship patterns was not confirmed. (A nine-item bibliography is included.) (MJM)

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Teacher Verbal Behavior and Classroom Social Structure

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Teacher Verbal Behavior
and
Classroom Social Structure

The reported research was a study of the fundamental differences in classroom social structure and sought to generate information about the effect of teaching behavior on the unique patterns of classroom social structures. In this context classrooms were viewed as affective learning environments which expand or constrict the quality of learning. Thus, concerns for needed knowledge about the classroom society were related areas which included specifically: (a) the nurture of interpersonal skills; (b) the utilization of peer group resources in developing values; (c) the contribution of the peer group to social identity and self concept; (d) the impact of teacher behavior on classroom social structure and climate and (e) the differences in the same classroom between the learning environment of boys and girls. This research was designed to examine the possibility of a direct link between kinds of teaching behavior and social relationships among children in the classroom.

The concept of the classroom as a "social organism" as developed by such researchers as Thelen (1951, 133), Lippitt and Gold (1959), Jennings (1947), and Schmuck (1962), directs attention to various aspects of an interlocking social system in which members are involved in differentiated roles characterized by various states of affect, status, avoidance or rejection. The crucial aspect of the classroom as a social system, as different from adult society, is

that children are in delicate stages of personality development and therefore are most vulnerable to the stresses of the classroom society. This fact points up the extreme importance of the teacher's role in guiding human interaction process. However, these skills remain relatively undefined in the literature of professional preparation.

PROBLEM:

Study of teaching behavior has focused on the adult as the power figure in the classroom. Examinations of the social-psychological dimension of the adult-child relationships have developed concepts such as dominative-integrative contacts (Anderson, 1939), authoritarian, democratic and laissez-faire control (White and Lippitt, 1960), closed and open-mindedness (Rokeach and Fructer, 1956) and direct and indirect teaching (Flanders, 1965). The work of Flanders developed relationships between teaching styles and the quality of cognitive learning of pupils. Beyond the Flanders research were questions of relationship between teaching styles and children's functioning within the affective realm of the classroom. Although classroom climate is an expected responsibility of the teacher role, the nature of interpersonal environments as functions of the teaching process were relatively unexplored. This lack of definitive information indicated a need for an examination of the nature of existing relationships between teaching behavior and children's acceptance and rejection of one another.

Specifically this study was concerned with the following questions:

1) Do relationsnips exist between teaching styles and patterns of pupil interaction?

2) If so what kind of pattern relates to direct teaching style and what kind of pattern relates to indirect teaching style?

3) Further, do these patterns vary according to the criterion of the socioquestions?

PROBLEMS AND PROCEDURE:

The dual dimensionality of the research has required separate discussions of each set of variables. This is necessary in order to elaborate not only the data gathering for each but to describe the indices of measurement which were constructed for the sociometric variable.

INSTRUMENTATION:

Sociometric Variable. Patterns of affect flow, whether status assignments or rejections are rendered visible through the sociogram. However, the sociogram is only one means of symbolically representing these positive and negative valences between people. Had a computer program been available the same data collected in this research might have been key punched, cast into matrices and the necessary indices derived at a fraction of the time and labor required to draw out the 234 sociograms.

As a representation of a reality, the sociogram maps or creates a visual image of a less visible multifaceted phenomenon. In developing the instrumentation, the major problem was to render these social diagrams into a form amenable to statistical processing. Schmuck (1962) in working with sociometric evidence developed two concepts which were most functional in describing two extremes of sociometric phenomena. These two patterns reveal highly pertinent information about children's learning environments. Thus a centralized pattern, that is a sociometric pattern of only one child receiving a majority of choices of his class, is a distinct type of learning environment with overtones of maladaptive social relationships. On the other hand, the diffuse sociometric pattern reveals the phenomenon of social choices to be arrayed in a chaining pattern of interaction rather than the star cluster of the centralized classroom. The diffused pattern then is characterized by many children being chosen, and these choices map-out as beads on a string in vertical structures of upward or downward choice.

Both structures have distinct social implications about the mental health of children. Jennings (1947) research strongly suggests that where children have ego strength and emotional security, they will idealize and choose a child close to themselves on the social-choice criteria but <u>just above themselves</u> as they reach for idealized but sympathetic and understanding peer relationships. It is this phenomenon that directs attention to malfunctioning social patterns

in which only one or two children in a class are deemed worthy of choice by their peers. Even more restrictive of human development are the highly centralized patterns on social criteria of rejection.

Utilizing sociometrics as the means of tracing out patterns of affect flow, the preliminary problem was to develop a means of statistically describing the degrees of centrality or diffuseness. Two factors are involved in both centrality and diffusion of sociometric choice patterns. First is the number of children in a room who are chosen by their peers. Therefore percent chosen is one factor and carries a high value in diffuse structures and low in centralized structures. The second factor is the amount of social differentiation in the children's choices. For this study social differentiation was measured as a social linkage ratio between the number of possible links of choice and the number of social linkages in the longest chain of choice. This ratio would differentiate choice patterns which center on a single child with high concensus from configurations of choice linking one child to another in a linear or branching pattern. The centrality-diffusion index was defined as the product of the percent of the class chosen and the social linkage ratios.

Sociometric data was gathered and processed on thirteen positive and negative social criteria, for example best friend and who do you try to stay away from or who is smart and good at their subjects and who has most trouble. This researcher administered all of the sociograms prior to observations with the Flanders. C-D indices were com-

puted on the 234 sociograms, thirteen for each classroom.

Teacher behavior variable. Flanders Interaction Analysis was used to examine teacher benavior. Teachers were observed with Flanders Interaction Analysis by four trained observers whose interrater reliability coefficients were established at .87 and above. They were all strangers to the school system (as this researcher was not). Each teacher was observed four times over a six week period. This interaction data was cast into matrices developed from key-puncned raw data sequences. The four observations on each teacher were combined into a composite matrix to categorize her teaching behaviors.

Multiple correlation comparisons of the Flanders data (direct and indirect ratios and ten categories of teaching behavior) as predictors and the centrality-diffusion indices were computed. Statistical processing was done with a Burroughs 5500 utilizing the Stepwise Regression program in computing the multiple correlations.

SUBJECTS

Two major considerations were involved in the selection of units for this research. Since the study was focused on the influence of the significant adult in the classroom, self contained classrooms were chosen as the most clearcut examples of the impact of the individual teacher's style on a classroom group.

A second option was made for fifth grade classrooms in order to have pupils with the ability to make adequate responses to the sociometric instrument. The study was also limited to female teachers.

In this small city school system, eighteen classrooms fit these criteria and all were included in the study. Class size ranged between twenty-three and forty-three children with a total of 576 children in the eighteen classrooms.

RESULTS

The preliminary processing of the Flanders data revealed percentages for every teacher in the study that classified them as direct rather than indirect teachers. No teacher was found to have as much as fifty percent of tallied verbal behavior in the first four Flanders categories. Their influence was composed mainly of direct behaviors, that is of Lecturing, Giving Directions, and Criticizing or Justifying Authority. Therefore the research findings describe relationships of more and less direct teachers rather than direct and indirect teachers.

The preliminary processing of sociometric data revealed Centrality-Diffuseness indices ranging between .0128 and .2715. Eleven links of social choice appeared in the .27 sociogram of the most diffused social structure and 66% of the children received choice from their peers. The most centralized structure (C-D Index .0128) showed 4 links of choice to be maximum and 24% of the children receiving choices.

Two socioquestions produced patterns which did not correlate significantly with any teaching behaviors as categorized by the Flanders instrument, Who in the room would you like to have help you with school work?; Who should act as the teacher when she is out of the

room? The remaining centrality-diffuseness indices correlated significantly with percentages of certain categories of teacher verbal behavior. These correlations ranged between .50 and .86.

In Table 1 multiple correlations are shown for those socioquestions which examined affective choices of children. Table 2, on the other hand, examines relationships to children's rejections of or aversions to others rather than selection to status positions.

In the overall analysis of the data certain verbal behaviors were outstanding in the degree and frequency with which they related to social patterns of children in classrooms. Of eleven sociocriteria, seven were found to have positive correlations with the Flanders teaching behavior of Accepts Children's Ideas. Of these seven socioquestions, two were status conferring and five were rejections. Praises or Encourages was a significant correlate of diffuse structure on only one of the sociocriteria, that of choice of Who is good at other things you do at school. This was also true of Asks Questions which related positively to the diffuse structure in response to choice of best friend. Accepts and Uses Children's Ideas was a positive correlate in four instances and a negative correlate with diffuse structure in another. Direct influence categories also rendered some unanticipated directions of relationship. When Criticizing or Justifying Authority appeared as a correlate it was in conjunction with other categories so that the two (or more) had to be taken together to be significant.

TABLE 1

Multiple Correlations between Centrality-Diffuseness Indices of Status-Based Sociometric Patterns of Pupils and Flanders Categories of Teacher Behavior.

Affective or Status Sociometric Questions	Direction of Multiple Correlations Between C - D Indices and Certain Flanders Categories										Significant Correlations (at .05 level)
	Indirect Influence				Direct Influence			Pupil Talk			
	Accepts Feelings	Praises, Encourages	Accepts, Uses Ideas	Asks Questions	Lectures	Gives Directions	Criticizes, Justifies Authority	Pupil Talk Responses	Pupil Talk Initiation	Silence or Confusion	
Q2. Best Friend			+								.51
Q3. Friendly and Fun				+							.53
Q4. Smart, Good at subjects	+ +		-		- - -		+ + +				.71 .79 .86
Q5. Good at other things at school		+									.65
Q6. Help with school work	+		+		-						.63

TABLE 2

Multiple Correlations between Centrality-Diffuseness Indices of Avoidance-Rejection Sociometric Patterns of Pupils and Flanders Categories of Teacher Behavior.

Avoidance or Rejection Sociometric Questions	Direction of Multiple Correlations Between C - D Indices and Certain Flanders Categories										Significant Correlations (at .05 level)
	Indirect Influence				Direct Influence			Pupil Talk		Silence or Confusion	
	Accepts Feelings	Praises, Encourages	Accepts, Uses Ideas	Asks Questions	Lectures	Gives Directions	Criticizes, Justifies Authority	Pupil Talk Responses	Pupil Talk Initiation		
Q9. Most trouble with subjects	+										.62
Q10. Most trouble with other things	+										.51
Q12. Not act as teacher	+ +							--			.54 .78
Q14. Causes you most trouble	+ +		+ +								.50 .66
Q15. Stay away from	+ +		+ +			+ +	+ +				.67 .78
Q16. Might hurt you							+		-		.61

In this way the most direct of the Flanders behaviors was a positive correlate of diffuse structures on three sociocriteria.

Among the computer runs five Flanders ratios (I/D, Revised i/d, Percent Content, Steady State Teacher Talk, and Extended Direct Teacher Talk) were processed. None of these ratios were found to correlate at or above the .05 level of significance with the C-D Indices.

1. The research confirmed that in this sample, statistically significant relationships do exist between categories of verbal behaviors of teachers and the patterns of peer relationships among their pupils.
2. The study did not confirm a broad spectrum relationship between direct and indirect teaching styles and peer relationship patterns.
3. The patterns varied according to the criterion of the socioquestions.

DISCUSSION

The importance of two indirect teaching behaviors in relation to diffuse peer relationships were outstanding. These behaviors of Accepting Feelings and Asking Questions were revealed to be most important to teaching repertoire as relevant behaviors in a climate for learning. On the other hand, Praising which is a much more highly used teaching behavior appeared but once as a positive correlate. Praising is a curious phenomena and perhaps rather than extending the "lines of affect" it serves as a designating and sanctioning behavior. We have no information here about the nature of praise as it was given in this research. In classrooms of direct teachers, praise may

be much less generally given and more specifically directed to fewer children, serving perhaps to centralize choice structures rather than diffuse peer selection. Certainly further study on methods of praising to whom and when should yield useful information about classroom social structures.

The curious positive status of Criticizing when in conjunction with indirect behaviors is revealing. Perhaps children who have their ideas supported, their feelings accepted, interpret criticism as further supportive behavior on the part of the teacher. The usefulness of accompanying negative feedback with support is generally accepted. However, the relationship to children's more general acceptance of one another under such situations further points up the effectiveness of this strategy.

An unanticipated finding was the lack of homogeniety in the Flanders concepts of Direct and Indirect teaching. This was somewhat embarrassing to the researcher since the hypotheses had been cast into forms using these ratios. It may be possible, that had the population included indirect teachers, the nature of the percentages would have shown significant relationships between indirect teaching and diffuse structures. However, this would not account for the positive correlations which appeared in the direct teaching categories. Clearly each teaching behavior relates to specific kinds of valences between children; and certain combinations of these categories present again a different type of learning environment. This suggests that the

concepts of direct and indirect teaching styles may not hold for affective learning. This, too, would merit further study.

Certain sociometric questions tended to produce like-patterned sociograms in all classes. The sociometric question Who would you like to help if they were having trouble with their school work?, tended to produce the longest chains of choice with the most children chosen of all the socioquestions. Also highly diffuse in nature were the patterns produced by Who is friendly and fun to be with?

Highly centralized patterns across all classrooms were produced by the question Who is smart and good at their subjects? This implies that within the boundaries of this study very few children were seen by their peers as doing well in the realm of what school is all about. It should be added however, that another study in process by Daily has shown less centrality in certain multiaged groupings of second and third grade children.

The rejection or disaffective questions also tended toward producing more centralized sociograms. In terms of reinforcing children in maladaptive roles, the weight of peer pressure is inescapable. One boy in the study received over 77 rejections across four socioquestions. His role as a "loser" was well established and maintained by the high consensus of his peers. Concern must be directed toward creating a climate for change for such highly selected individuals.

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